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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,947	03/11/2004	Yuh-Jye Uang	7410	4843
7590	02/28/2008		EXAMINER	
Paul M. Denk Suite 170 763 S. New Ballas Road St. Louis, MO 63141			MAHYERA, TRISTAN J	
			ART UNIT	PAPER NUMBER
			1615	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/797,947	<b>Applicant(s)</b> UANG, YUH-JYE
	<b>Examiner</b> TRISTAN J. MAHYERA	<b>Art Unit</b> 1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

#### Status

- 1) Responsive to communication(s) filed on 26 December 2007.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-32 is/are rejected.
- 7) Claim(s) 1 and 4 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449)  
 Paper No(s)/Mail Date 04/05/2004
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

After further consideration Examiner has hereby withdrawn the election of species requirement in the Office Action filed 11/27/2007.

***Status of Claims***

Claims 1-32 are pending. Claims 1-32 are examined on the merits.

***Priority***

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

The later-filed application must be an application for a patent for an invention, which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filled application, Application No. 60/454592, fails to provide adequate support or enablement in the manner provided by the first paragraph

of 35 U.S.C. 112 for one or more claims of this application. Claims 1, 9, 10, 11, 12 and 31 refer to a catalyst. Claims 18 and 19 refer to a buffer. Claim 22 refers to the use of sodium benzoate as a preservative. Claim 25 refers to elongation longer than 1100%. No support is found for the above mentioned claims in priority Application No. 60/454592. The effective filing date for the above mentioned claims is set at 03/11/2004.

***Claim Objections***

Claims 1 and 4 are objected to because of the following informalities: A claim must consist of only one sentence wherein the end of the sentence is signified by a period ". ". Claim 1 has no period. Claim 4 consists of two sentences. Appropriate correction is required.

***Claim Rejections - 35 USC § 112 2<sup>nd</sup> Paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 23, 24 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 23 recites the limitation "said the mixture" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 30 recites the limitation "the substrate" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 24 recites the limitation "...the hardness is below 30 A.". It is unclear what unit applicant is using to define hardness. Applicant must define the hardness method and unit used with sufficient detail.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over BIANCO et al. (US 6,348,534 – see PTO-1449) in view of SHAPERO et al. (US 5,310,421 – see PTO-892) and MERCK (The Merck Index, see PTO-892) and SMITH

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et al. (Effects of Freezing point of Carbohydrates Commonly used in Frozen Desserts, see PTO-892).

BIANCO teaches an aqueous play gel in a container for use by children. BIANCO teaches the gel contains water. See e.g. Example 1; instant claim 1. The gel is a polyvinyl alcohol. See e.g. Example 1; instant claim 1. The gel is in a container. See e.g. Example 3; instant claim 1. The reference teaches the use of a salt, including alkali metal salts and alkaline earth salts, preferably potassium chloride. See e.g. col 4 lines 1-16; instant claim 1. The reference includes sorbitol as a surfactant; however, antifreeze is an inherent property of sorbitol. See e.g. col 3 lines 31-38 and MERCK "sorbitol" Compound No. 8873; instant claims 1-3. Additional sweeteners are taught, specifically, sucrose, lactose, maltose, glucose all of which are known to inherently effect the freezing point of a composition. See e.g. col 3 lines 33-36 and SMITH page 2466 Table 2; instant claims 2, 4 and 5. The reference further includes base sugars such as dextrose, maltose, fructose, glucose and combinations of these (i.e. corn syrup of various D.E.). See e.g. col 3 lines 34-35 and SMITH page 2466 Table 2; instant claims 4 and 5. BIANCO further teaches alkali metal phosphates as surfactants, of which dipotassium phosphate is known as a buffer in antifreeze solutions (see MERCK "dipotassium phosphate" Compound No. 7828); instant claims 18 and 19. The reference teaches colorants and preservatives. See e.g. claim 8 and col 4 line 55; instant claims 20-21 and 27. Sodium benzoate is a common non-toxic food grade preservative. See e.g. MERCK "sodium benzoate" Compound No. 8725; instant claim 22. Mineral oil is taught by BIANCO. See e.g. col 4 line 56; instant claim 23. The

composition is extremely flexible and designed for children. See e.g. col 1 line 51; instant claims 24 and 25. The composition can glow in the dark. See e.g. col 1 line 58; instant claim 28. Different colors and printing such as fluorescence, iridescence, pearlescence, metallic appearance and sparkles are all taught by BIANCO. See e.g. col 1 lines 55-61 and claim 14; instant claims 29 and 30.

While BIANCO does not explicitly teach all the instant claimed percentages, it is the position of the Examiner that it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine suitable percentages through routine or manipulative experimentation to obtain the best possible results, as these are variable parameters attainable within the art, specifically to determine the optimal freezing point temperature by adjusting the percent of antifreeze in the gel; instant claims 6 and 31.

Moreover, generally, differences in concentration will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration is critical. “[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” *In re Aller*, 220 F.2d 454, 456; 105 USPQ 233, 235 (CCPA 1955). Applicants have not demonstrated any unexpected or unusual results, which accrue from the instant percentage ranges.

BIANCO does not explicitly teach a gel that is cross-linked or potassium chloride.

SHAPERO teaches a play material formed using a self cross-linking sodium alginate to make a gel. SHAPERO teaches a gel formed from cross-linked sodium

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alginate, salt and water. See e.g. Table 1, col 4 lines 16-17; instant claims 7 and 13-15. The gel is taught to contain 2.5% to 4.0% sodium alginate. See e.g. col 4 line 16; instant claim 8. The salt used by SHAPERO in the catalytic formation of the sodium alginate gel is sodium chloride. See e.g. Table 1 line 22; instant claim 9 and 11. The sodium chloride is taught from 2.0% to 7.0%. See e.g. Table 1 line 22; instant claim 10. While SHAPERO does not use potassium chloride, a person skilled in polymer gels at the time of the invention would know that any salt of an alkali metal, specifically potassium chloride or sodium chloride or a alkaline earth metal salt, specifically calcium chloride or magnesium chloride, would suffice in the formation of an alginate gel; instant claims 12, 16 and 17.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make a toy or medical composition comprising sorbitol used as a antifreeze agent, a salt used as a catalyst, colors, gelling agent and cross-linking gel within a container, as taught by BIANCO in view of SHAPERO. One of ordinary skill in the art at the time the invention was made would have been motivated to combine these elements into a single composition because of the beneficial effects of using a safe and non-toxic gel, specifically cross-linked sodium alginate, around children as taught by SHAPERO. See e.g. SHAPERO col 3 lines 1-7. Furthermore, the antifreeze agent would prevent injury to children by keeping the toy soft and malleable in cold temperatures, instead of hard and potentially dangerous to a child's eye or body. Absent any evidence to the contrary, and based upon the teachings of the prior art,

there would have been a reasonable expectation of success in practicing the instantly claimed invention.

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over BIANCO et al. (US 6,348,543 – see PTO-1449) in view of SHAPERO et al. (US 5,310,421 – see PTO-1449) and in view of NORTON et al. (US 5,002,934 – see PTO-892).

BIANCO and SHAPERO teach toys for children containing a gel in a container, as described above.

BIANCO and SHAPERO do not teach the use of carrageenan gum as the gelling agent.

NORTON teaches the use of carrageenan gum in an aqueous gel composition. See e.g. col 3 lines 12-16; instant claim 32. The carrageenan gum is present from about 0.5 to 5.0% by weight, specifically about 1.5%. See e.g. claim 8 and Table 2 wherein the carrageenan is present at 1.5%; instant claim 32.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to make a composition comprising containing carrageenan gum as the gelling agent, sorbitol as the antifreeze, potassium chloride and a colorant, as taught by BIANCO in view of SHAPERO in view of NORTON. One of ordinary skill in the art at the time the invention was made would have been motivated to combine these elements into a single composition because carrageenan gum is non-toxic and safe for consumption in the food industry, making it beneficial to use in toys or medical devices where toxic gels are disfavored, as taught by NORTON and SHAPERO. Absent any evidence to the contrary, and based upon the teachings of the prior art, there would

have been a reasonable expectation of success in practicing the instantly claimed invention.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TRISTAN J. MAHYERA whose telephone number is 571-270-1562. The examiner can normally be reached on Monday through Thursday 9am-7pm EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL P. WOODWARD can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TJM/

/Michael P Woodward/  
Supervisory Patent Examiner, Art Unit 1615